UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,411	01/16/2002	Michael K. Larkin	SJO920010010US1	6117

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ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		10/050,411	LARKIN, MICHAEL K.
		Examiner	Art Unit
		Joseph E. Avellino	2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *16 November 2002*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-22 and 24-31* is/are rejected.

7) ☒ Claim(s) *23 and 32* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *16 January 2002* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/16/02*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   The numbering of claims is not in accordance with 37 CFR 1.126 which requires

the original numbering of the claims to be preserved throughout the prosecution. When

claims are canceled, the remaining claims must not be renumbered. When new claims

are presented, they must be numbered consecutively beginning with the number next

following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 33 been renumbered 32.

2.   Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent

form for failing to further limit the subject matter of a previous claim. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form. Claim 22 is dependent

from claim 21, which is identical to claim 22. Correction is required.

3.   Claims 1-32 are presented for examination; claims 1, 8, 15, and 26 independent.

Specification

4.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

Allowable Subject Matter

5.   Claims 23 and 32 would be allowable if rewritten to overcome the rejection(s)

under 35 U.S.C. 112, 2nd paragraph, set forth below in this Office action and to include

all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

8.   Claims 1, 8, and 15 recite the limitation "the clients comprising a plurality of

queue types, each having an individual scheme for prioritizing jobs". It is unclear from

the scope of the claim if each client has a scheme for job prioritization or if each queue

on each client has an individual scheme for job prioritization. Correction is required.

For examination purposes, it will be taken that each client has its own individual scheme

for job prioritization.

9.   Claims 2-7, 9-14, and 16-25 are dependent upon the independent claims stated

above. Accordingly they are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12, 14-22, 24, 26-31 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Doraswamy et al. (USPN 6,128,642) (hereinafter Doraswamy) in

view of Willke (USPN 6,813,767).

11.   Referring to claim 1, Doraswamy discloses an intelligent system control agent

(i.e. local processor station) for coordinating user requested jobs among a plurality of

clients (i.e. remote processor stations), comprising:

a user interface (i.e. import device such as a keyboard) configured to receive

user requests (col. 4, lines 25-35);

a client selection module configured to select one of a plurality of clients to

service a user request according to a predetermined criterion, the clients comprising at

least one queue, each having an individual scheme for prioritizing jobs (e.g. abstract;

col. 9, lines 11-18; col. 9, lines 55-61); and

a communication module configured to submit the user request to the selected

client (col. 9, line 61 to col. 10, line 8).

Doraswamy does not specifically disclose the client comprising a plurality of

queue types, only at least one queue (see above). In analogous art, Willke discloses

another intelligent system control agent wherein the client has a plurality of queue types

(i.e. priority queue and normal queue) (Figure 3, ref. 312, 314). It would be obvious to a

person of ordinary skill in the art at the time the invention was made to combine the

teaching of Willke with Doraswamy. The processing engines of Doraswamy would be

able to utilize the technique of Willke to handle transaction requests having different

request characteristics as supported by Willke (col. 1, lines 32-33).

12.   Referring to claim 2, Doraswamy furthermore discloses a state awareness

module configured to maintain an awareness (i.e. status announcements) of the state of

the selected client (col. 4, line 57 to col. 5, line 10).

13.   Referring to claim 3, Doraswamy furthermore discloses an agent communication

protocol module configured to communicate with software located within a client of the

plurality of clients (i.e. receiving status announcements from the other processor

stations in the network) col. 4, line 57 to col. 5, line 10).

14.   Referring to claim 4, Doraswamy furthermore discloses an agent endpoint

module configured to enable the relocation (the Office takes the term "relocation" to be

broadly construed as "shifting the process to another agent") of the system control

agent (the disclosure of Doraswamy states that although the method as performed by a

single local processor station, each processor station in the network also can perform

the same method from its own local perspective, see col. 4, line 59-57).

15.   Referring to claim 5, Doraswamy discloses a federation module configured to

allow cross-communication and interaction between a plurality of system control agents

(i.e. processor stations) (col. 4, line 57 to col. 5, line 10).

16.   Referring to claim 6, Doraswamy discloses a job relocation module configured to

relocate a user requested job form one client to another (i.e. from the local processing

station to a remote processing station) (col. 4, line 57 to col. 5, line 10; col. 9, lines 21-

31).

17.   Referring to claim 7, Doraswamy discloses a state storage module configured to

store the state of jobs being relocated form one client to another (Doraswamy states

that the state information is transferred from the local processor station to the remote

processor station, col. 9, line 61 to col. 10, line 8, which can only occur if it was stored at

the local processor station, thereby inherently providing that there must be a state

storage module configured to store the state of jobs being relocated form one client to

another).

18.   Claims 8, 14-22, 24, 26-31 are rejected for similar reasons as stated above.

19.   Referring to claim 9, Doraswamy discloses the invention substantively as

disclosed in claim 8. Doraswamy does not specifically disclose selecting a suitable

queue for each request sent to the client. In analogous art, Willke discloses another

system which determines a suitable queue for each request sent to the client (Figure 3,

ref. 320). It would be obvious to a person of ordinary skill in the art at the time the

invention was made to combine the teaching of Willke with Doraswamy. The

processing engines of Doraswamy would be able to utilize the technique of Willke to

handle transaction requests having different request characteristics as supported by

Willke (col. 1, lines 32-33).

20.   Referring to claim 10, Doraswamy in view of Willke disclose the invention

substantively as described in claim 9. Doraswamy in view of Willke do not specifically

state comprising an asynchronous queue to run requests simultaneously within a

specified client, however it is well known that modern operating systems are

multitasking operating systems, able to run a plurality of jobs in parallel via time slicing

or parallel processing. By this rationale "Official Notice" is taken that both the concepts

and advantages of providing for an asynchronous queue configured to run requests

simultaneously within a specified client are well known and expected in the art. It would

have been obvious to one of ordinary skill in the art to modify the system of Doraswamy

and Willke with an asynchronous queue in order to quickly complete tasks which do not

require exclusivity between the threads, such as write locks or critical code sections,

thereby increasing the throughput of the system and reducing overall system overhead.

21.   Referring to claim 11, Doraswamy in view of Willke disclose the invention

substantively as described in claim 9. Doraswamy in view of Willke do not specifically

state comprising a synchronous queue configured to run requests in the order the

requests were received by a specified client, however it is well known that FIFO (First-

In-First-Out) queues allow requests to run in order they are received. By this rationale

"Official Notice" is taken that both the concepts and advantages of providing for a

synchronous queue configured to run requests in the order the requests are received is

well known and expected in the art. It would have been obvious to one of ordinary skill

in the art to modify the teaching of Doraswamy and Willke to provide order to the

requests, and ensuring that the oldest request is handled first, thereby providing that no

job is starved for service, which thereby increases throughput and reducing overall

system overhead.

22.   Referring to claim 12, Doraswamy in view of Willke disclose the invention

substantively as described in claim 9. Doraswamy in view of Willke do not specifically

state comprising an exclusive queue to run requests exclusive of any other requests in

any other queue on the system, however it is well known that exclusive queues exits,

which provide for locking mechanisms of critical code or write operations which will

become corrupted if not run atomically (which is the term in the art for running a task or

thread without interruption). By this rationale, "Official Notice" is taken that both the

concepts and advantages of providing for an exclusive queue to run requests exclusive

of any other requests in any other queue on the system is well known and expected in

the art. It would have been obvious to one of ordinary skill in the art to provide for an

exclusive queue to run requests exclusive of any other requests in any other queue on

the system to ensure that operations requiring access to critical sections of code are not

corrupted by other jobs and also for providing exclusive access to operations which

would corrupt data if executed in a racing condition with other threads, thereby providing

data reliability, ensuring required operations are completed and reducing overall system

downtime due to data corruption.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Doraswamy in view of Willke as applied to claim 8 above, and further in view of Stamm

et al. (USPN 6,711,616) (hereinafter Stamm).

23.   Doraswamy in view of Willke disclose the invention substantively as described in

claim 8. Doraswamy in view of Willke do not specifically disclose stub software to

control execution of a request residing on a specified client. In analogous art, Stamm

discloses another method of controlling a client which includes stub software to control

execution of a request residing on a specified client (i.e. monitoring software) (col. 3,

line 57 to col. 4, line 4). It would be obvious to a person of ordinary skill in the art at the

time the invention was made to combine the teaching of Stamm with Doraswamy and

Willke in order to more efficiently offload tasks from strained machines to idle machines,

thereby improving performance and throughput.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Doraswamy in view of Willke as applied to claim 24 above, and further in view of Cajolet

(USPN 6,192,388).

24.   Doraswamy in view of Willke disclose the invention substantively as described in

claim 24. Doraswamy in view of Willke do not specifically state transferring a request by

sending requests to state storage system by a client, sending instructions to a new

client to access requests, accessing requests from the state storage by the new client,

and relocating the request to the new client station. In analogous art, Cajolet discloses

another system control agent which transfers a request by instructing a client to relocate

a current requests by a system administrator (i.e. a local user); sending requests to a

state storage system (i.e. dispatcher) by a client; sending instructions to a new client to

access requests from the state storage system by the agent; accessing requests from

the state storage system by the new client; and relocating the requests to the new client

station (col. 9, lines 15-30). It would be obvious to a person of ordinary skill in the art at

the time the invention was made to combine the teaching of Cajolet with Dorasamy and

Willke in order to quickly execute complex computational tasks using only those

computers that are available and have the appropriate capabilities to execute the task

as supported by Cajolet (e.g. abstract).

Conclusion

25.   The prior art made of record and not relied upon is considered pertinent to
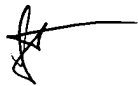
applicant's disclosure.

- USPN 6,418,458 by Maresco.

- US 2003/0120705 by Chen et al.

- US 2003/0050957 by Hatalkar.

- USPN 6,779,181 by Yu et al.

- USPN 5,889,989 by Robertazzi et al.

- USPN 6,119,145 by Ikeda et al.

- USPN6,505,229 by Turner et al.

- USPN 6,823,512 by Miller et al.

- USPN 6,067,301 by Aatresh.

- USPN 6,112,225 by Kraft et al.

- USPN 5,249,293 by Schreiber et al.

- US 2002/0087657 by Hunt.

- USPN 5,539,885 by Ono et al.

- USPN 6,418,462 by Xu.

- USPN 6,779,023 by Tognazzini.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph E. Avellino whose telephone number is (571)

272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JEA
February 10, 2005

Primary Examiner
Art Unit 2143
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